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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/658,272

09/10/2003

Jin-Hee Kim

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4031

49455

7590

07/18/2006

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EXAMINER

WEINER, LAURA S

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No. 10/658,272	Applicant(s) KIM ET AL.	
	Examiner Laura S. Weiner	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-48 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-20, drawn to an electrolyte comprising a lithium salt, an organic solvent and an additive, classified in class 429, subclass 330.
 - II. Claim 21, drawn to an electrolyte comprising a lithium salt, an organic solvent and at least one of 5 additive compounds listed, classified in class 252, subclass 62.2.
 - III. Claims 22-38, drawn to a lithium battery comprising a positive electrode which includes one of lithium-nickel-based and a lithium-nickel-manganese-based oxide, a negative electrode, an electrolyte comprising an additive, classified in class 429, subclass 231.1.
 - IV. Claims 39-44, drawn to an electrolyte comprising a lithium salt, an organic solvent comprising a carbonate and an aromatic hydrocarbon solvent, at least one additive and an organic sulfone-based compound, classified in class 429, subclass 332.
 - V. Claims 45-48, drawn to a lithium secondary battery comprising a positive electrode, a negative electrode, an electrolyte comprising a lithium salt, an organic solvent, an additive and an organic sulfone-based compound, classified in class 429, subclass 215.

The inventions are distinct, each from the other because of the following reasons:

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2. Inventions I and II and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are unrelated because they are not disclosed as capable of use together and have different effects such that invention IV requires the electrolyte to comprise a carbonate and an aromatic hydrocarbon solvent and an organic sulfone-based compound that is not required in Inventions I or II. Invention II only allows for 5 specific additive compounds whereas Invention I allows for many more.

3. Inventions III and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are unrelated because they are not disclosed as capable of use together and have different effects such that Invention III requires that the lithium battery comprise a positive electrode which includes one of lithium-nickel-based and a lithium-nickel-manganese-based oxide versus Invention V requires the electrolyte to comprise an organic sulfone-based compound.

4. Inventions I, II, IV and III, V are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product, and the species are patentably distinct (MPEP § 806.05(j)). In the instant case, the

intermediate product is deemed to be useful as an electrolyte for a capacitor and the inventions are deemed patentably distinct because there is nothing on this record to show them to be obvious variants.

5. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

6. This application contains claims directed to the following patentably distinct species:

If pick Invention I or III:

An additive selected from Formulas (1) to (6). Please pick one formula cited in claims 1 or 22 and then further define the R's, the Y's, the X's if present. Also then further choose/name the selected additive cited in claims 2 or 24.

Decide if claim 7 is present whereas the additive compound has to form a passivation layer on the surface of the positive electrode or not.

Choose the non-aqueous solvent from claims 10-16 or 28, 34-38, as a carbonate (claims 11, 35), as a mixed solvent of a cyclic carbonate and a chain carbonate (claims 12, 36), as a mixed solvent of a carbonate solvent and an aromatic hydrocarbon solvent (claims 14-15, 37-38) an ester, an ether or a ketone.

Decide if claims 17-20 or 29-32 are present whereas the electrolyte further comprises an organic sulfone-based compound or not. If the organic sulfone-based compound is present please further define R10 and R11.

If pick Invention II:

Please choose one of the additives cited in claim 21.

If pick Invention IV or V:

An additive selected from Formulas (1) to (6). Please pick one formula cited in claims 39 (43-43) and 45 and then further define the R's, the Y's, the X's if present.

For the organic sulfone-based compound, please further define R10 and R11 (claims 39-40) (claims 45, 46 or 47) and then choose/name the selected organic sulfone-based compound cited in claims 44 or 48.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

7. A telephone call was not made due to the complexity to request an oral election to the above restriction requirement, therefore did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

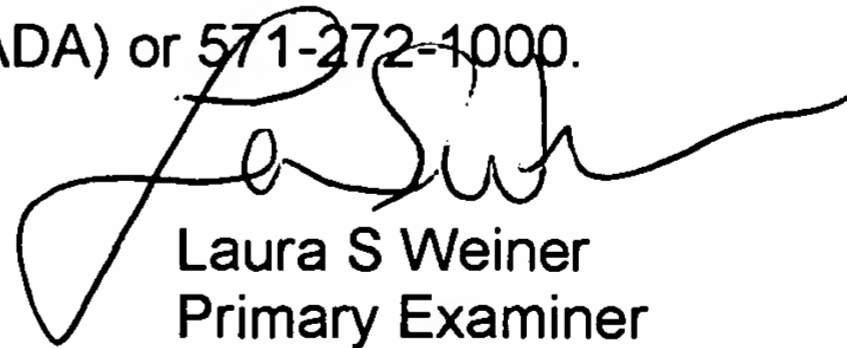
8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner
Primary Examiner
Art Unit 1745

July 11, 2006